SUSTAINING BIODIVERSITY CONSERVATION IN AND AROUND NYUNGWE NATIONAL PARK

ENVIRONMENTAL MONITORING & MITIGATION PLAN

The overriding **goal** of this project is that *Rwanda benefits from the conservation of wildlife and sustainable use of ecosystem services in Nyungwe National Park.*

The **principal objective** is To Improve the capacity of the Rwanda Development Board (RDB) to sustainably manage the park's resources and address specific threats (fire, poaching, timber harvesting) to the park and specific species of concern

The supporting objective is that communities and government are able to benefit from the conservation of wildlife and sustainable

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data	
Strategy I : Strengthening RDB's Biodiversity and Threats Monitoring Capacity					
Threats Monitoring Capacity Outp	out 1: Biological surveying capacity is s	trengthened.			
Provide training to Park Rangers and the Research & Monitoring team in biological surveying techniques and species identifications	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer. This aims to increase the capacity in biological surveying of the park through	This activity will not have a direct impact on the environment per se, but on the contrary it will strengthen the capacity to collect data and process them into useful information on the threats / negative impacts on park biodiversity. This information will be used to design actions for counteracting those threats and help to reverse the trends.	Training Report	RBM quarterly report	
Provide training on data collection methods and use of essential field equipment to Rangers to ensure that accurate and reliable data is being collected in the Park	RBM and use of MIST GIS. The biological data collection is based exclusively on recording of field observations and does not involve	As above	As above	As above	

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
Provide training to the Research & Monitoring team in data analysis and management	collection of any biological specimen / material. In addition, Staff will be trained on how to collect data with	As above	As above	As above
Deliver additional GIS training enabling RDB to carry out more advanced data analysis and assessment of biodiversity in the Park	minimum impacts on the biodiversity (minimum disturbance by walking and noise in the field)	As above	As above	As above
Ensure support and mentoring in the use of MIST		As above	As above	As above
	ut 2: Capacity in law enforcement and t	threat monitoring and assessment is stre	engthened	L
Provide equipment and resources needed to assist RDB in using the data provided by MIST to guide management and threats mitigation	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR	As above	As above	As above
Avail, share and discuss RBM results on a monthly basis between different departments at park level	216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	As above	As above	As above
Make use of MIST results for park adaptive management		As above	As above	As above
		mate is strengthened, and baseline asse	ssment complete	d.
Hold a workshop for scenario- building to share the climate and landscape modeling output from the WCS Albertine Rift climate assessment	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	As above	As above	As above
Hold training to build RDB capacity to monitor climate impacts	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR	As above	As above	As above
Carry out needs assessment for field equipment and initiate process to acquire the identified equipment	216.2(c)(2)(i) education, technical assistance, training; 22 CFR	As above	As above	As above

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
Hold regular meetings between RDB Community Conservation Wardens and the local authorities around the Park to present RBM results in their sectors and to encourage them to take a more active role in reducing illegal activities and supporting law enforcement measures	216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	As above	As above	As above
Support RDB in the implementation of proposed wildlife and biodiversity policies (under development) through trainings etc.		As above	As above	As above
Construct two new ranger posts to aid in Park patrols	Negative determination with conditions. (Negative Determinations with Conditions, per §2 16.3(a)(2)(iii), are recommended for Protected Area related	Construction activities of the ranger posts shall be conducted in a manner consistent with the good design and implementation practices described in EGSSAA Chapter 4: ecotourism	Environmental review/checklist prepared	Summarized in quarterly reports
	infrastructures). The parks patrol posts are generally constructed out of the park boundaries in the buffer zone, but close enough to the park.	As the construction activities might have negative impact on the park and its buffer zone, it would be compulsory to carry out	EIA conducted as required and	Site trip reports
	In this regards, the patrol post construction will fall into the category of ecotourism infrastructure and therefore requires appropriate scrutiny process as detailed in the IEE.	environmental assessments (EAs) or detailed mitigation strategies to avoid or mitigate adverse impacts on tropical forest, biodiversity and/or threatened and endangered species. In collaboration with RDB (T&C and EIA Departments) and REMA, we will use an	mitigation plans developed and implemented as appropriate	EMMP summary reports (from activity/task reports and field monitoring summaries)
		environmental screening and review process for all the steps for the patrol post construction and occupation using impact assessment tools to: i) screen the activities (site selection, infrastructure design, construction and occupation and use – including appropriate waste	Activity/task reports prepared which describe environmental mitigation and monitoring actions	reported in annual reports

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
		disposal) and ensure that these will result in no adverse environmental impact; ii) develop mitigation measures, as necessary; and iii) specify monitoring and reporting requirements. We will adapt this process from the environmental Review Form (ERF) and Environmental Review Report (ERR) process. These forms are found under Special Compliance Topics at the MEO Resource Center on the ENCAP website at http://www.encapafrica.org/meoentry.htm. If the review shows potentially significant impact, an attachment with mitigation measures to be undertaken will be included with all approval requests to USAID for Mission Environmental Office (MEO) and BEO approval. Any proposed activity deemed to have a negative impact will be subject to an Environmental Impact Assessment, For any activity that is likely to have significant impact on the environment, MEO and BEO approval will be required before the activity/proposal can be undertaken.	and follow-up; monitoring summaries prepared	
	id Districts' capacity to manage conflic- city to understand, manage and resolve	t, mitigate threats and manage tourism. conflicts is in place		
Establish partnership with International Institute of Sustainable Development (IISD) to build capacity to understand, manage and resolve conflicts.	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies,	N/A	N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
(IISD will provide expertise in conflict resolution mapping and analysis, working with local communities to tackle conflicts)	workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.			
Develop a conflict resolution taskforce to implement and maintain dialogue with the Sector groups.	As above	N/A	N/A	N/A
Hold regular training sessions and meetings between the taskforce and community members in conflict areas to maintain dialogue and to enhance the taskforce members' knowledge, technical skills and at the same time provide them with tools for mitigating conflicts and also to help them develop guidelines for managing conflicts around the Park.	When conflict mitigating tool / guidelines involve elimination of individual specimens from the park (vermin such as velvet monkeys, baboons), an appropriate assessment of the impact of such measure will have to be conducted previously and this measure will be backed by a formal instruction issued by the competent authorities and shall be implemented with professionalism.	N/A In case of vermin elimination, an appropriate Strategy must be designed with details on the ecological impacts for such a measure as well as conditions for its implementation.	N/A Vermin elimination plan	N/A EMMP quarterly reports
Hold regular dialogue through 6 monthly meetings with local forums in each Sector to build trust and create ground for improved park and community relationship NNP Management Output 2: Community Community 2: Comm	As above munities participate in conflict mitigatio	N/A n processes	N/A	N/A
Recruit community liaison agents (animateurs de conservation - ANICO) from each sector abutting NNP to act as educators and as agents within the communities	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR	N/A	N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
Provide the community liaison agents with necessary training and equipment to facilitate their work NNP Management Output 3: Capa	216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer. city to manage fire, and monitor mining	N/A and resource use	N/A	N/A
Develop a fire management plan (including fire prevention strategy, early warning mechanism and detection, awareness raising /sensitization strategy)	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	N/A	N/A	N/A
Provide training and fire-fighting equipment	As above. Nyungwe being a mountain forest, any fire is prohibited (including the back burning – use of early burning to prevent damaging wild fires later in the dry season). No use of fire for even for training purpose (for practice in fire fighting).	Although no adverse environmental impacts are anticipated from this activity, the developed fire management plan will – where appropriate and to the extent possible - incorporate environmental issues into training/capacity building programs and workshops. Activities could include incorporating environmental impact assessment practices and environmental monitoring techniques into the contents of training programs	N/A	N/A
Assist RDB to monitor and gather intelligence mechanisms to track the mineral market, the demand trends and the market chain	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	N/A	N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
	The activity consists in the assessment of the extent of the illegal mine extraction from the park. This will be documented for further action in trying to solve the extent of this major threat which has a very high detrimental impact on the park			
Help to assess causes and impacts of hunting in Nyungwe and help develop a long term mitigation program	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer. The activity consists in the assessment of the extent of the illegal hunting from the park. This will be documented for further action in trying to solve the extent of the activity which has a very high detrimental impact on the park's wildlife	N/A	N/A	N/A
Support transboundary cooperation meetings between the protected area authorities of NNP and Kibira National Park in Burundi	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	N/A	N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
	The aim is to promote collaboration that will facilitate implementation of activities to mitigate threats in both parks			
NNP Management Output 4: Touri	 sm impact monitoring program support	l ts adaptive management of the tourism p	program.	
Work closely with DAI and RDB to establish a tourism impact monitoring program consisting into two elements: 1) monitoring of tourist impact on wildlife; and 2) assessment of the impacts of tourism development within the Park	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	N/A	N/A	N/A
Carry out training for RDB staff on the principles of Environmental Impact Assessment (EIA) to facilitate management of NNP and establish baseline information which is crucial at this early stage for further monitoring and detection of disturbances	As above	N/A	N/A	N/A
In collaboration with DAI, Develop a code of conduct and guidelines to manage tourist behavior in the park	As above	N/A	N/A	N/A
Train the tourism warden, guides and other relevant personnel and equip them to monitor and mitigate potential tourism impacts at Nyungwe NP	As above	N/A of Rwanda to develop and support PES	N/A	N/A

Strategy III: Strengthening the knowledge and interest of the Government of Rwanda to develop and support PES policies.

PES Policy Output 1: The Government of Rwanda has the knowledge and interest in establishing effective PES policies that fully support implementation of PES schemes and ensure that values equitably accrue to both government and communities

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
Support the establishment of a working group on PES that will bring together relevant government agencies (RDB, REMA, NAFA, and other key ministries including the Ministry of Lands, Environment, Forestry, Water and Mines (MINITERE), Ministry of Infrastructure (MININFRA) and the Ministry of Local Government, Good Governance, Rural Development and Social Affairs (MINALOC)) in a multi-sectorial taskforce	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer. The task force aims at reviewing PES opportunities, identifying potential institutional constraints, and proposing policy actions that will support market development for ecosystem services and equitable distribution of revenues	N/A	N/A	N/A
PES Policy Output 2: RDB has the	capacity to develop a comprehensive i	revenue sharing policy.		
Coordinate with RDB and local communities as part of a transparent process to develop an effective policy and approach to channel revenue from PES to communities and to local development priorities, building on WCS' experience in Madagascar and Cambodia	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.	N/A	N/A	N/A
Strategy IV: Develop Payments for	Ecosystem Services (PES) schemes.		1	•
PES Schomos Output 1: Paymont	machanisms for acceptant sorvices de	esigned, with an emphasis on watershed	l sorvices and car	hon
Continue to liaise with the owners of the tea estates to put in place the necessary agreements and/or contracts to allow the payment for water services	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR		N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
	216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer.			
Develop capacity within Rwandan government agencies and civil society associations to develop a pilot water market in Nyungwe with local tea estates, building from PES experience in South America	As above	N/A	N/A	N/A
Based on that experience, attempt to expand market opportunities	As above	N/A	N/A	N/A
Partner with Ecotrust Uganda, to undertake a feasibility study to determine which areas are appropriate for small-holder tree planting (woodlots, fruit trees,	A Negative Determination with Conditions is recommended pursuant to 22 CFR 216.3(a)(2)(iii) for agriculture activities	Potential environmental impacts of the small holder tree planting activities might include: - Ecological and Human Health introduction of non native species may	Environmental review/checklist prepared	Summarized in quarterly reports
fodder, etc) as part of an integrated land use strategy, including an analysis of the feasibility of bamboo planting in woodlots.		cause unwanted competition, predation etc on native species. Non native or non regional species may compete with species that are naturalized (more likely	EIA conducted as required and mitigation plans developed and implemented as	Site trip reports
		to thrive) and critical to existing community food sources more particularly on the bamboo,	appropriate	EMMP summary reports (from
		special attention will be paid to the source of the rhizomes, avoiding inducing pressure on the Park's bamboo zone, habitat of a special and rare primate species Cercopithecus hamlyini.	Activity/task reports prepared which describe environmental mitigation and monitoring actions and follow-up;	activity/task reports and field monitoring summaries) reported in annual reports
			monitoring summaries	

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
			prepared	
PES Schemes Output 2: Capacity	of Rwandans at both the local and nation	│ onal levels to benefit from ecosystem se	rvices strengthen	ed
Develop a series of training workshops involving PES experts from a variety of sectors to increase knowledge and awareness about PES and its potential	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer. The aim is to boost opportunities and engage stakeholders to develop effective approaches			
Support the participation of trained staff from key agencies in different regional meetings on PES to facilitate exchange of ideas and experiences with colleagues from the region and other continents	As above	N/A	N/A	N/A
Strategy V: Develop Sustainable	Alternatives for Resource Use.			
Sustainable Alternatives Output 1 sources.	: Improved energy efficiency in villages	around Nyungwe from introduction of f	uel efficient stove	s and alternative fuel
Explore opportunities including introduction of fuel efficient stoves that respond to cultural practices but achieve greater levels of efficiency	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v),	N/A	N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
	document and information transfer. The aim is to avail a feasibility plan for the introduction of fuel efficient stove which are culturally acceptable and have no negative impacts on the environment and human health			
Assess options, in collaboration with REDO, for manufacture / acquisition of stoves and their distribution in communities around Nyungwe	As above Special attention will be given to the source of material for manufacturing the efficient stoves avoiding potential pressure on the park and its surrounding environment	N/A	N/A	N/A
Undertake a feasibility of the introduction of the briquette technology	As above			
Scale up the use of these technologies in the region through a small initial investment and by setting up a revolving fund, including a credit scheme	As above			
Sustainable Alternatives Output 2	: Creating Incentives for Reducing Illeg	al Bamboo Harvesting		
Work with farmers to introduce bamboo production as part of an agroforestry strategy	A Negative Determination with Conditions is recommended pursuant to 22 CFR 216.3(a)(2)(iii) for agriculture activities. For further details	Potential environmental impacts of the small holder tree planting activities might include: - Ecological and Human Health	Environmental review/checklist prepared	Summarized in quarterly reports
	on agricultural best practices, see also EGSSAA: Chapter 7: Forestry: Reforestation, Natural Forest Management and Agro- forestry.	introduction of non native species may cause unwanted competition, predation etc on native species. Non native or non regional species may compete with	EIA conducted as required and mitigation plans	Site trip reports

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
		species that are naturalized (more likely to thrive) and critical to existing community food sources. - more particularly on the bamboo, special attention will be paid to the source of the rhizomes, avoiding inducing pressure on the Park's bamboo zone, habitat of a special and rare primate species Cercopithecus hamlyini. As already built in the design of this activity, the agro forestry strategy will also look at: a) selection of an appropriate species that best satisfies local needs, b) assessment of potential environmental impact of using the species, c) developing markets and mechanisms to increase the value of those plantings (see PES section above regarding carbon sequestration), and d) developing contracts with farmers that base any payments and marketing support to a commitment to not harvest bamboo from the forests.	developed and implemented as appropriate Activity/task reports prepared which describe environmental mitigation and monitoring actions and follow-up; monitoring summaries prepared	EMMP summary reports (from activity/task reports and field monitoring summaries) reported in annual reports
Strategy VI: Implement Education	and Outreach Programs			
	ultiple values of NNP, reduce the adopt	y) will adopt a positive/supportive attitude ion of unsustainable behaviors as they gr		
Development of education & outreach curricula	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR	Although no adverse environmental impacts are anticipated from training	N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data	
	216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v), document and information transfer	programs, the project will – where appropriate and to the extent possible - incorporate environmental issues into training/capacity building programs and workshops. Activities could include incorporating environmental impact assessment practices and environmental monitoring techniques into the contents of training programs.			
Development of teaching resources (materials and activities)	As above	N/A	N/A	N/A	
Organize teacher training workshops	As above	N/A	N/A	N/A	
Support for organization of certain activities, such as park visits and school nature clubs	As above Park visits shall be organized in collaboration with RDB management and should respect the existing regulations for park visitation (acceptable number, respect of code of conduct)	N/A	N/A	N/A	
Education Output 2: Out-of school youth and other vulnerable groups, specifically those groups responsible for the threats of unsustainable resource use, fire and mining (e.g. hunters, beekeepers, bamboo cutters, miners) will adopt a positive/supportive attitude to park conservation efforts and change their behavior accordingly based on an understanding of the multiple values of NNP					
Organize initial stakeholder meetings, focus groups and survey questionnaires to develop clear knowledge, attitude and behavior change goals (including where necessary the need of support for alternatives)	Categorical exclusion. (A Categorical Exclusion is recommended per 22 CFR 216.2(c)(2)(i) education, technical assistance, training; 22 CFR 216.2(c)(2)(iii) analyses, studies, workshops; and 22 CFR 216.2(c)(2)(v),	N/A	N/A	N/A	

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
	document and information transfer			
Identify appropriate communication channels (e.g. radio, television, newspapers, church groups, consumer products etc.) and the associated communication vehicles (e.g. radio drama, songs, TV documentaries, news articles, etc.)	As above	N/A	N/A	N/A
Develop and deliver the selected resources and activities, based on the analysis	As above	N/A	N/A	N/A
Organize training for RDB & WCS education and outreach staff, district outreach officers and community liaison agents (animateurs de conservation - ANICO) to develop and implement the social marketing strategy	As above	Although no adverse environmental impacts are anticipated from this activity, the developed education strategy will — where appropriate and to the extent possible - incorporate environmental issues into training/capacity building programs and workshops. Activities could include incorporating environmental impact assessment practices and environmental monitoring techniques into the contents of training programs.	N/A	N/A
Develop interpretive materials targeting local schoolchildren and community groups in support of the objectives outlined in the Education & Outreach Strategy	As above	As above	N/A	N/A
Organize park visits for out of school youth and other vulnerable groups	As above As above Park visits will be organized in collaboration with RDB management and will respect all the existing	As above	N/A	N/A

Activity	Determination / IEE Reference	Mitigation Measures and Conditions	Monitoring criteria & Frequency	Indicator & Verification data
	regulations for park visitation (acceptable number, respect of code of conduct) so as to minimize the potential negative impacts on the environment, particularly disturbances on the wildlife.			
Develop a mobile interpretation unit that can reach those audiences unable to visit the park	As above	As above	N/A	N/A